CONVENTIONAL SYNCHRONOUS SYSTEM
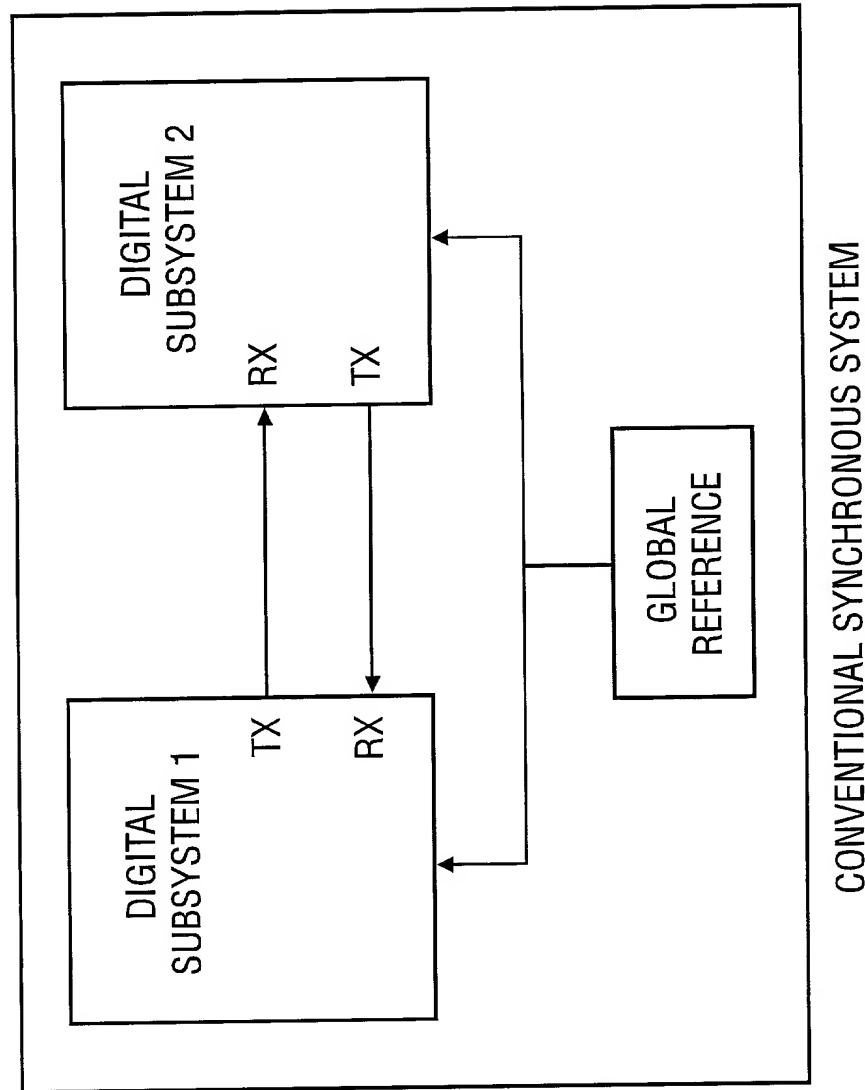
Fig. 1

CONVENTIONAL PLESIOCHRONOUS SYSTEM

Fig. 2

Fig. 3
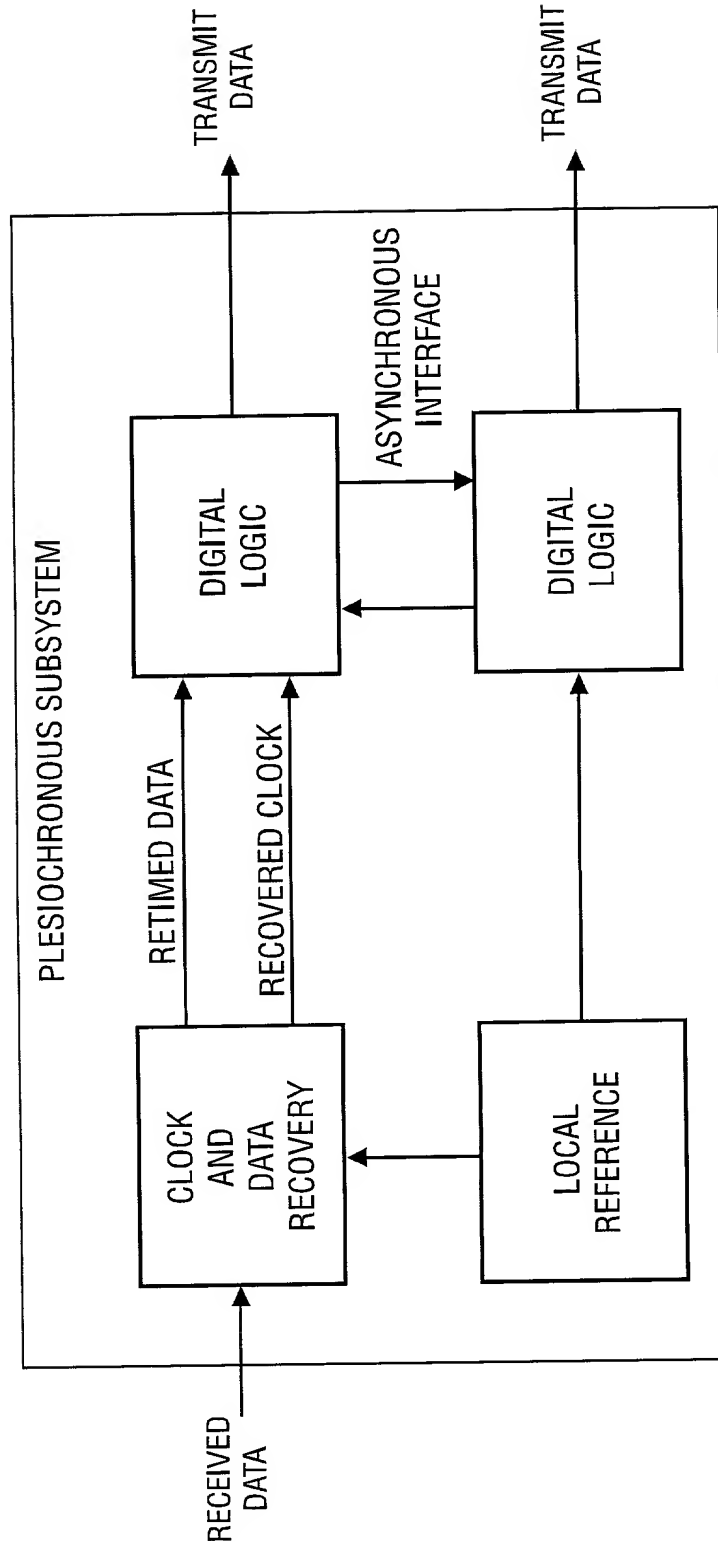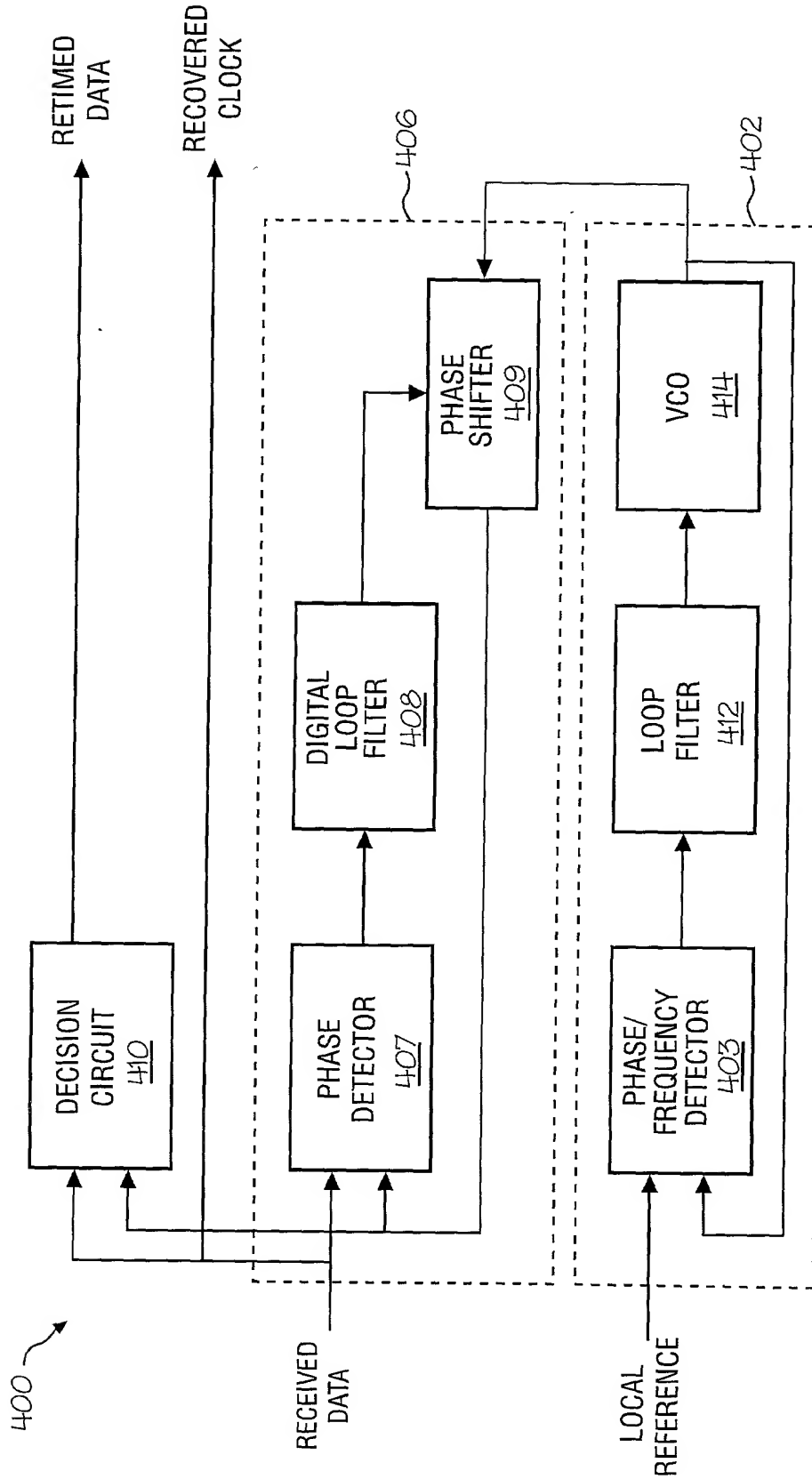
RETIMED DATA

RECOVERED CLOCK

DECISION CIRCUIT 410

PHASE DETECTOR 407

DIGITAL LOOP FILTER 408

PHASE SHIFTER 409

406

PHASE/ FREQUENCY DETECTOR 403

LOOP FILTER 412

VCO 414

402

RECEIVED DATA

LOCAL REFERENCE

400

DUAL LOOP CDR

Fig. 4
PRIOR ART
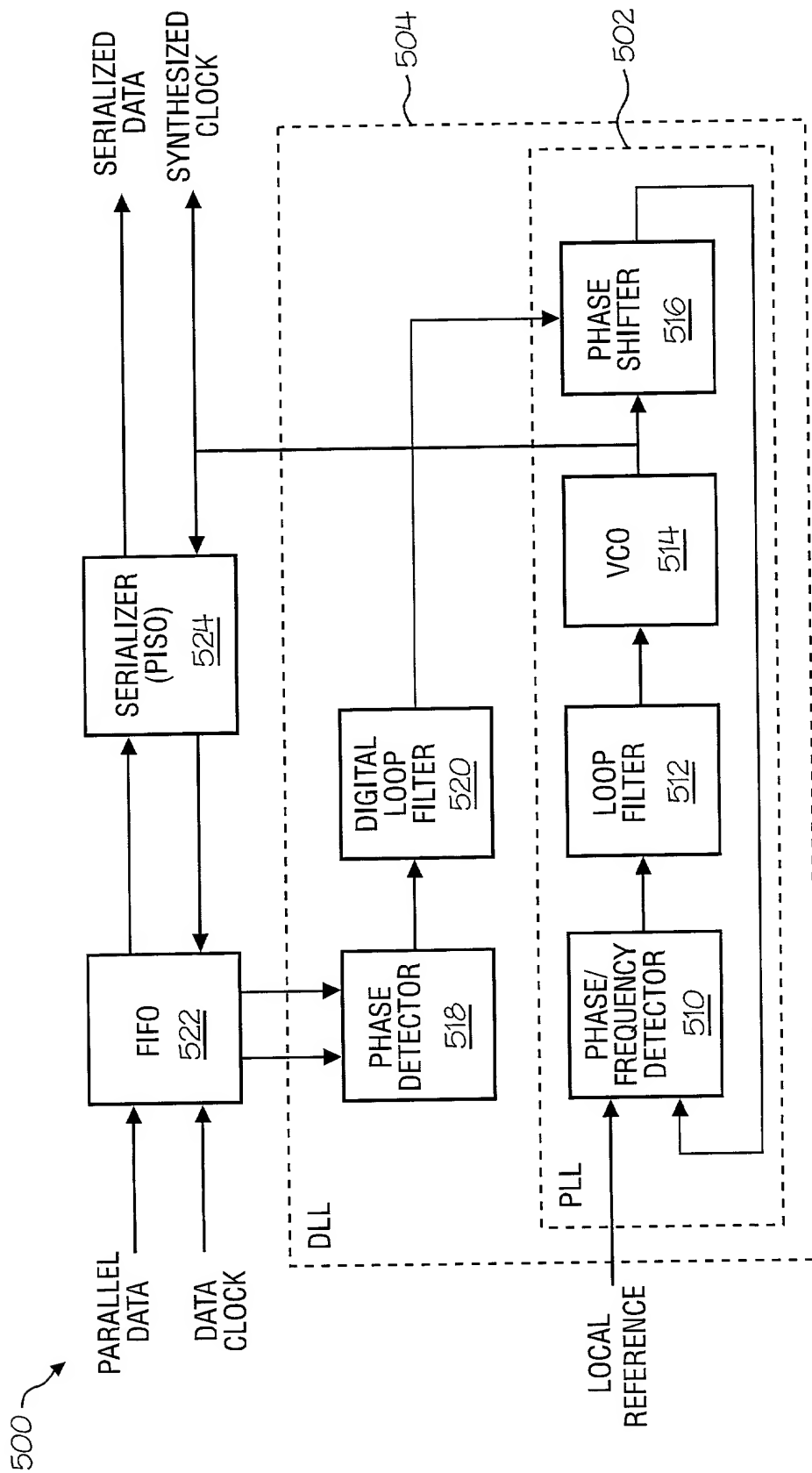
Serial No.: TBA
Filing Date: 12/20, 2001, Title: PLL/DLL Dual Loop
Data SynchronizationUtilizing a Granular FIFO Fill
Level Indicator, Atty: MichelWhittington (602) 382-
6275, Express Mail No EL626415885US
Sheet No. 5/12

5/12

DUAL LOOP SERIALIZER

Fig. 5
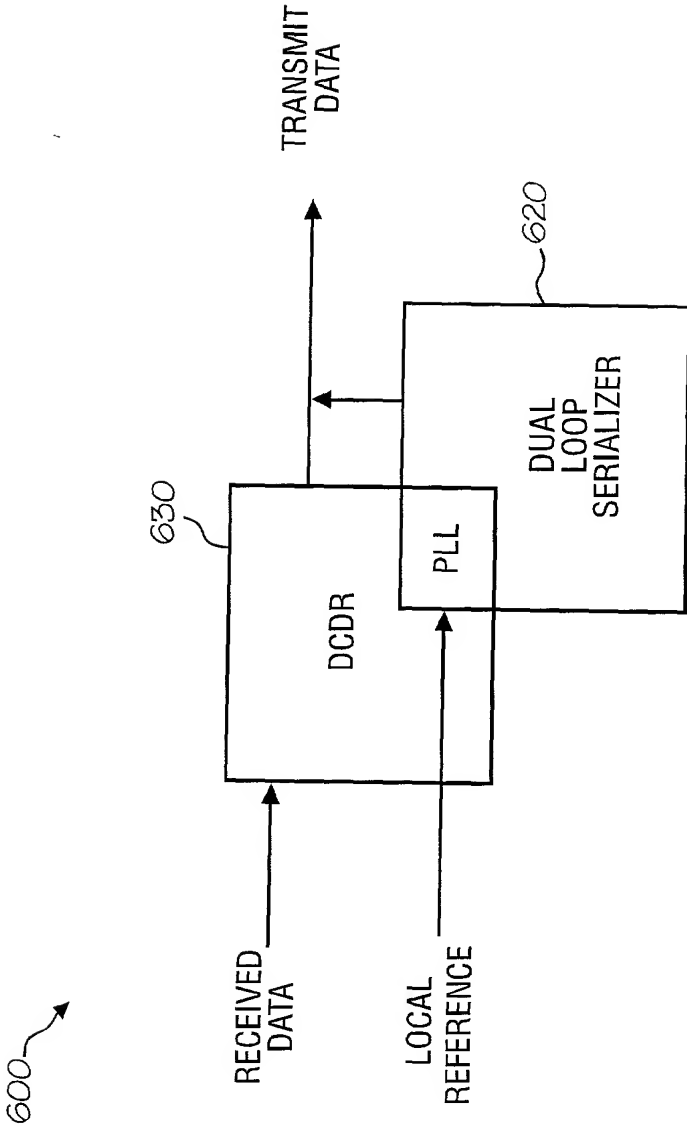
TRANSMIT
DATA

620

DUAL
LOOP
SERIALIZER

630

DCDR

PLL

RECEIVED
DATA

LOCAL
REFERENCE

600

DUAL LOOP RETIMER

Fig. 6

Fig. 7

DUAL LOOP RETIMER
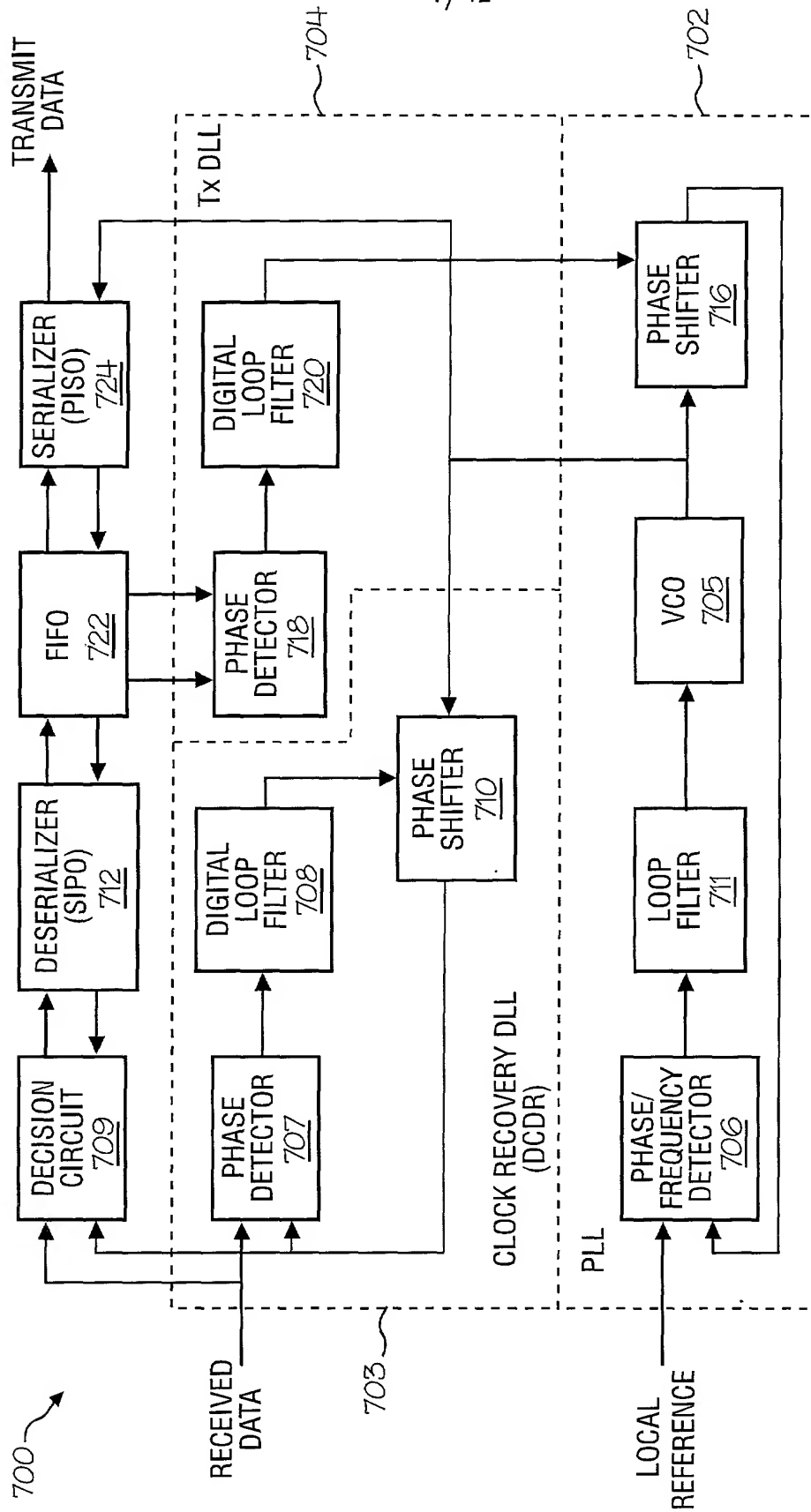
GRANULAR FIFO FILL LEVEL INDICATOR
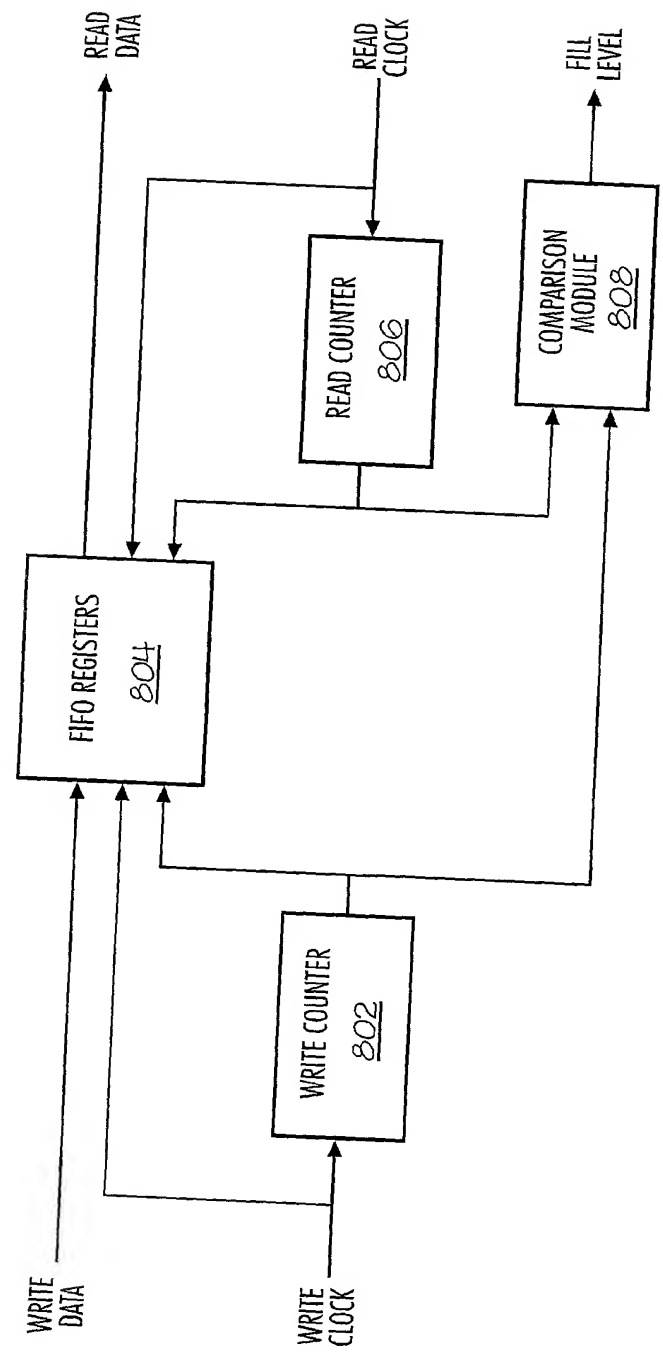
Fig. 8

COUNTER BASED FIFO FILL LEVEL INDICATOR
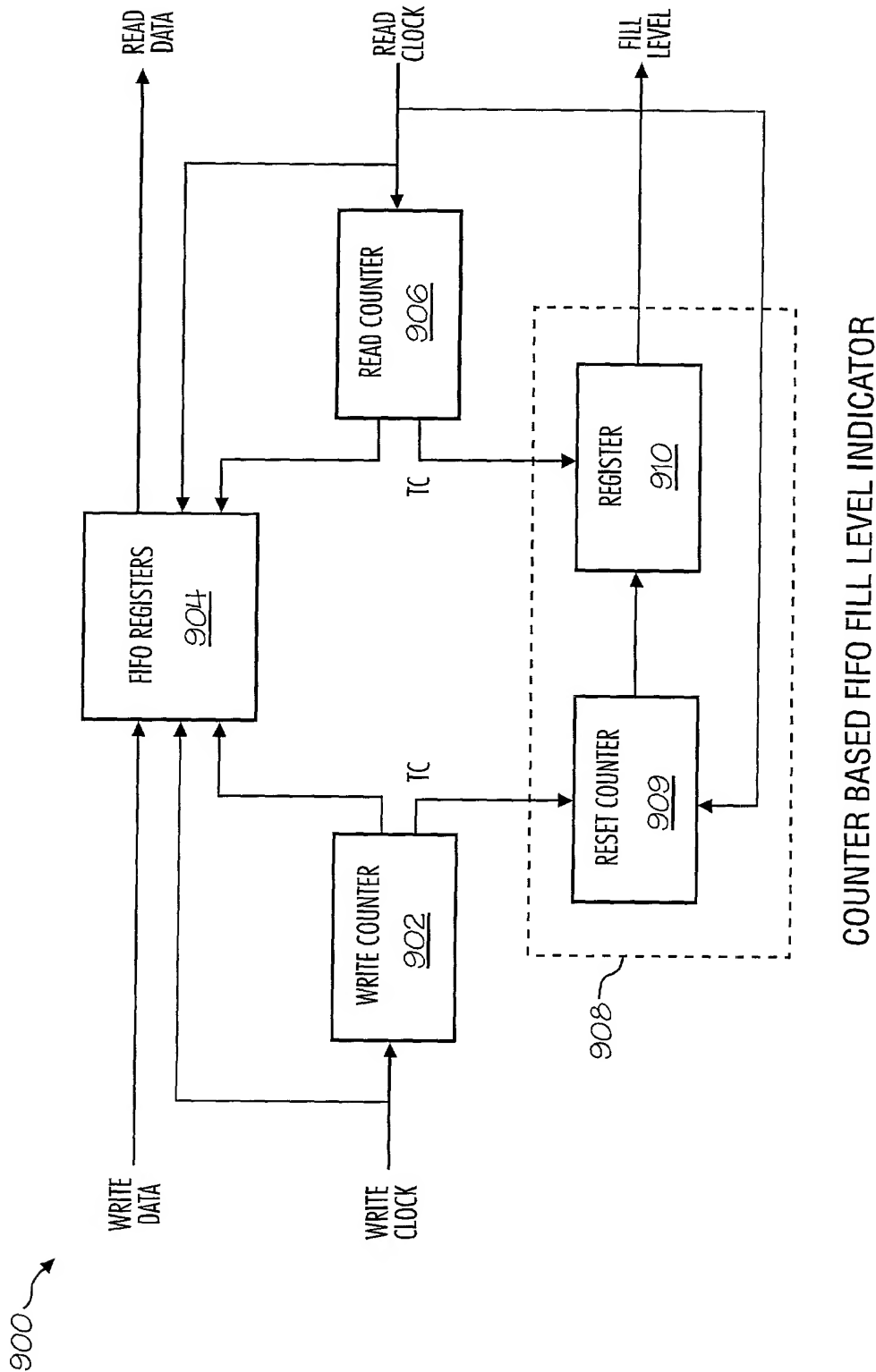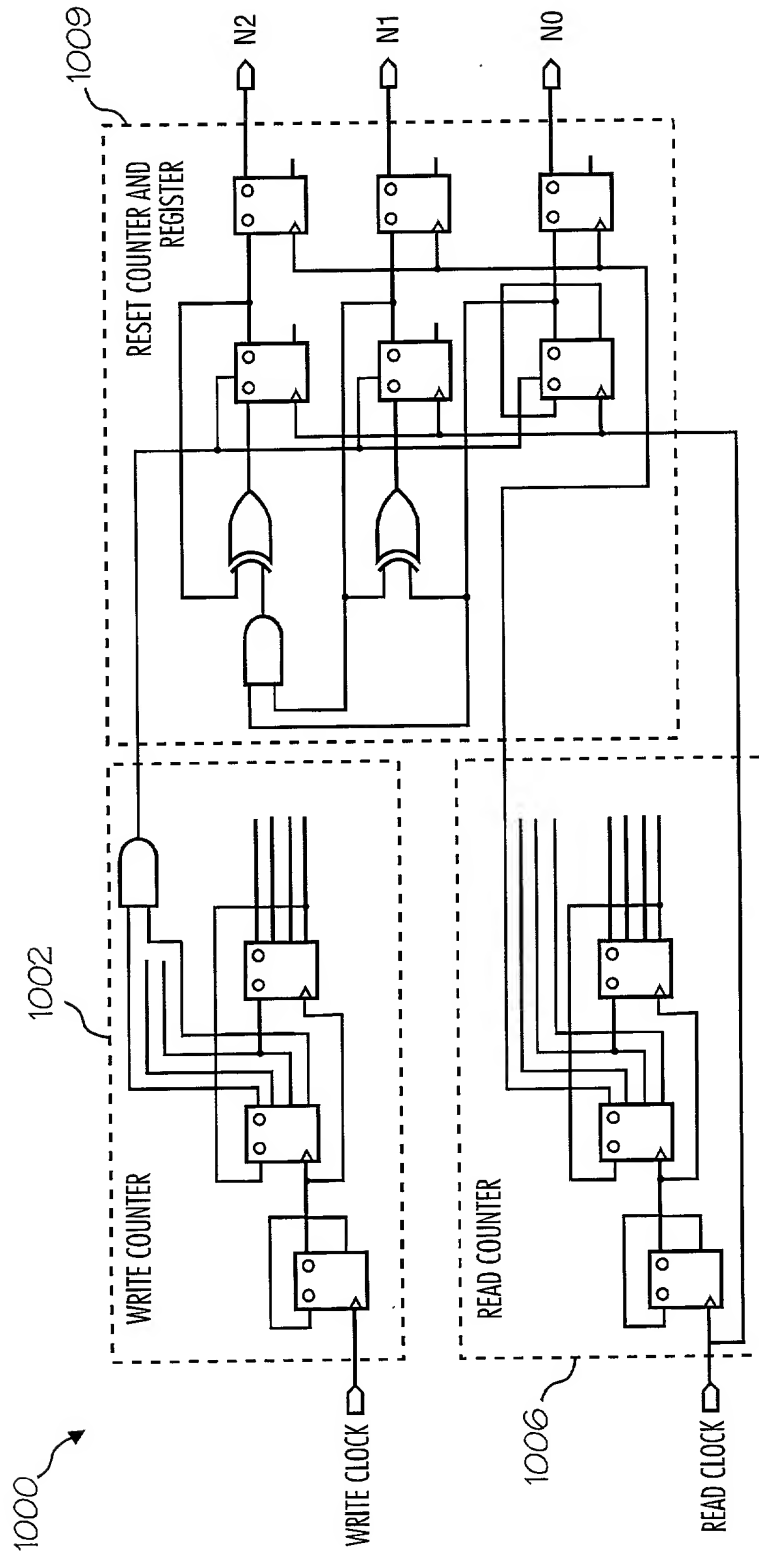
Fig. 9
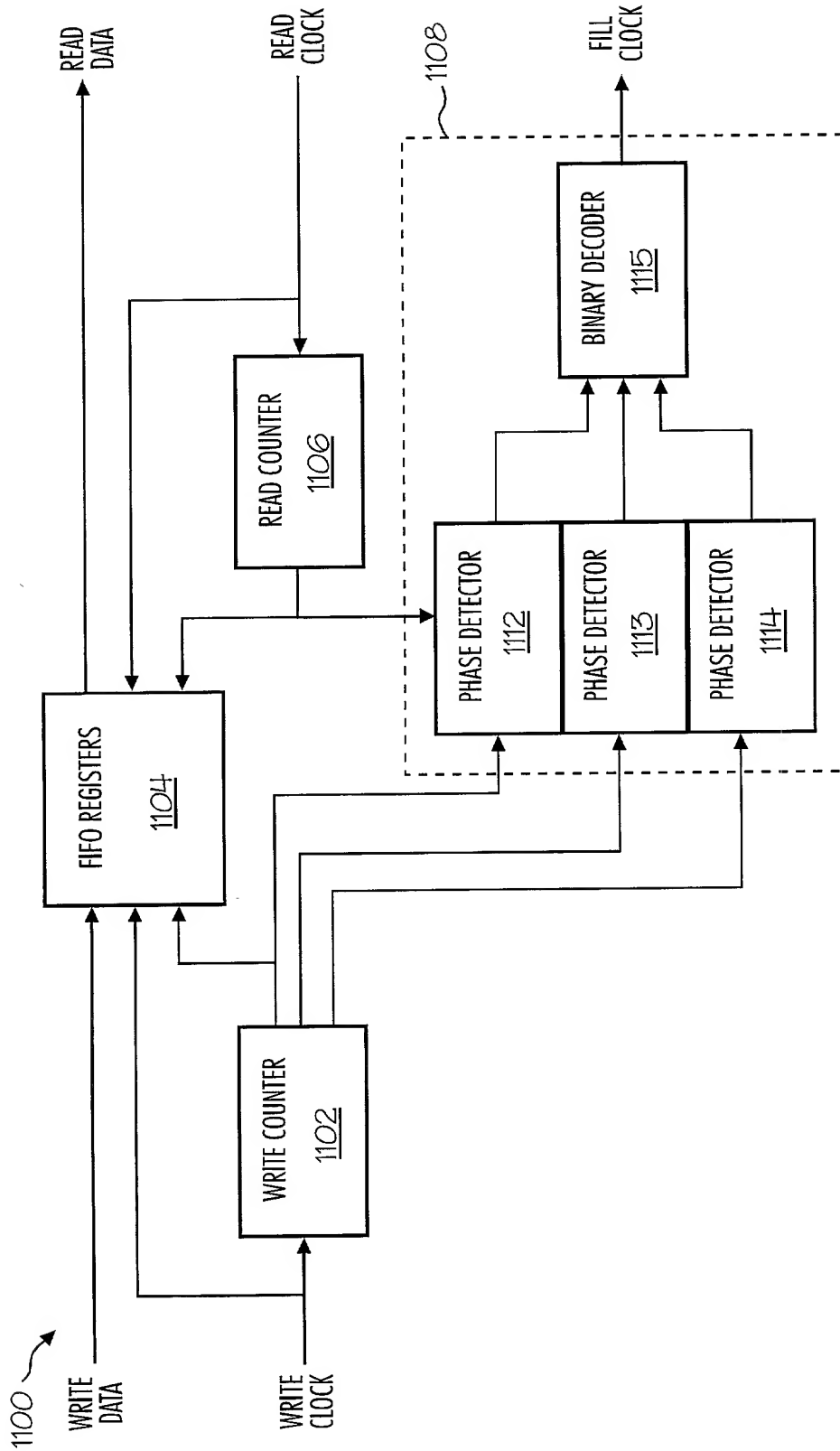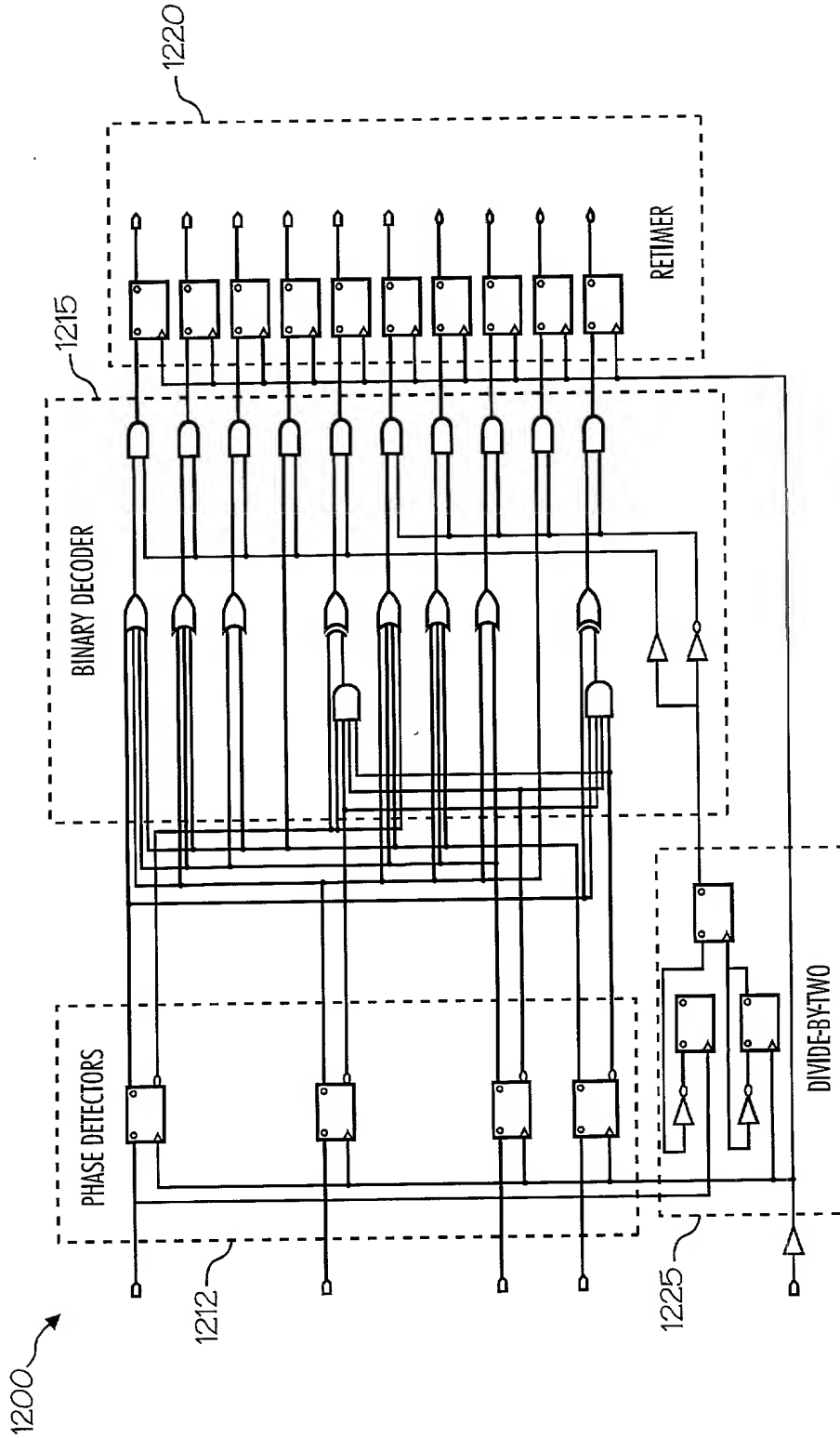
LOGIC LEVEL IMPLEMENTATION OF SYSTEM 900

Fig. 10

MULTI-PHASE DETECTOR BASED FIFO FILL LEVEL INDICATOR

Fig. 11

LOGIC LEVEL IMPLEMENTATION OF SYSTEM 1100

Fig. 12